Literacies and Learning in Motion:
Meaning Making and Transformation in a Community Mobile Storytelling Project

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ABSTRACT

Mobile and participatory cultures have led to widespread change in the way we communicate; emphasizing user generated content and digital multimedia. In this environment, informal learning may occur through digital and networked activities, with literacy no longer limited to alphabetic and character-based texts. This article explores adult learners' new literacies within the context of a digital mobile storytelling project. A qualitative approach is used to explore the artifacts and practices of nine adult participants who comprise the study. Participants created a range of fiction, non-fiction, poetry and diary-style content in a variety of modes and media. Outcomes from content analysis, interview and survey methods depict mobile digital literacies as characteristically situated, experiential and multimodal. The mobile and participatory nature of this project was catalytic to participants' imaginative re-interpretation of the world around them as sources for meaning making and transformation. This paper contributes a case example of mobile learning with adults in a community setting.

KEYWORDS

Creative Practice, Digital Storytelling, Informal Learning, Mobile Learning, Mobile Phones, Multimodality, New Literacies, Participatory Culture, Student-Generated Multimedia, User-Generated Content

INTRODUCTION

Mobile learning – as we understand it – is not about delivering content to mobile devices but, instead about the processes of coming to know and being able to operate successfully in, and across, new and ever-changing contexts and learning spaces. And, it is about understanding and knowing how to utilize our everyday life-worlds as learning spaces (Pachler, Bachmair, Cook, & Kress, 2010, p. 6).

Social media, web 2.0 applications and mobile devices have come to characterise a digital landscape that affords people with new ways to interact, communicate and learn. The communication culture and the artefacts that comprise it are often participatory, visual, and multimodal in nature. Mobile devices are just one tool through which people navigate these new semiotic surrounds. The technical convergence that typifies later generations of mobile devices has privileged digital media (e.g. video) and multimodal content (e.g. image, video, sound) over traditional written text. People now have the tools with which to produce and share their own multimedia culture and meanings (Dyson, Litchfield, & Raban, 2010). User-generated content platforms form an environment that supports widespread participatory culture: non-experts are able to create and share new content online (Jenkins, Purushotma, Weigel, Clinton, & Robison, 2009; Merchant, 2009). Mobile devices are one

gateway to participating in such a culture, with participation and authoring behaviours acquired and honed outside of educational institutions such as schools, universities or online courses.

Educational research has long recognized the importance and legitimacy of learning that 'occurs without the presence of externally imposed curricula criteria […] in any context outside the pre-established curricula of educative institutions' (Livingstone, 2001, p. 1). Outside the boundaries of the educational institution, converged media and their associated cultural practices have had a transformative effect on learning (Pachler et al., 2010). Though participatory learning innovations such as crowd learning, maker culture and citizen inquiry are in their ascendency, these have yet to leave a marked impact on education or educational research (Sharples et al., 2013). Into this context the question is not whether learning is occurring informally through new social networks, technologies, media and cultural practice, but how it is occurring. How do adults who are not enrolled within an educational program, who have no set curricula and are untethered from the established sequence of learning outcomes, assessment and learning activities, utilize their everyday life-worlds and their technologies of choice as tools for learning in these spaces? Answering this question is difficult. The unbounded and informal nature of mobile learning that takes place within everyday settings presents numerous methodological challenges (Sharples, 2009; Traxler, 2009). Mobile learning that is characteristically informal, personalized and situated may have too many variables and present too much noise or too little signal (Traxler, 2009, p. 160). Judging when learning starts and ends is also difficult (Sharples, 2009). Methodological challenges inherent to mobility may also be further compounded in instances of informal learning, which has always been difficult to research since it remains often unacknowledged by the learner (Foley, 2001; Hrimech, 2005) while historically being valued less than its formal counterparts (Colley, Hodkinson, & Malcolm, 2002; Marsick & Watkins, 1990).

This paper contributes to understandings of mobile learning that account for adult learners who are not enrolled within any formal educational program. Building on understandings of mobile learning as a contextual and ecological phenomenon (Pachler et al., 2010) this paper reports an empirical study of a participatory mobile digital storytelling project. Established as a digital alternative to a traditional face-to-face community writers' group, the *mStories* project provided the bounded case by which to explore unbounded phenomena associated with informal mobile learning. This project focused explicitly on how adults use mobile and other digital technologies within mobile and non-mobile settings to create digital multimedia within a creative and expressive context. As an exploratory study, qualitative methods were used to make sense of meaning-making practices and artefacts associated with the project. It contributes an understanding of learning that takes place informally through user-generated content and serves to emphasise the role of mobility within adults' new literacies development. In focusing on both the practice and the products associated with mobile digital storytelling, the research draws attention to the inherently multimodal (e.g. image and text, sound and video) nature of mobile device use, and how this usage relates ecologically to other technologies. Specifically, this article describes how adults engaged in creative multimodal practice within the ever-changing context of the mobile space and the learning that participants presented. From these contributions, future research may be better placed to explore how such skills are initially acquired or best utilised to facilitate future learning within community settings. This work adds theoretical discussion to existing digital storytelling practices (e.g. Lambert, 2002) and offers alternative ways that mobility may alter digital storytelling and be adopted within community based learning.

We begin with a review of the literature before describing the *mStories* project design and its methodology. As a case study, the design and methods are presented in tandem. Following this, key findings are presented and a discussion relates the empirical work back to the wider literature. Implications for practitioners are then highlighted. The paper concludes by suggesting avenues for further work.

LITERATURE REVIEW

This section covers relevant literature from two convergent disciplinary fields: new literacies research and mobile learning. New literacies research informs the study's understanding of the socio-technical, communicative and semiotic landscape that learners engage with, while mobile learning research focuses on informal and community based learner populations. Gaps within the research literature are highlighted and used to frame the empirical work at the centre of the main study.

New Literacies

Changes to the technological, cultural and social landscape challenge the concept of literacy and what it means to be literate. User-generated content, participatory culture and the technologies that support this have allowed people to consume, produce and share a range of media and modes. Content may include written text, image, video, sound and music. Both artefacts (what people make) and praxis (what people do) have changed, with recent research recognising that both are necessary to understand the phenomenon of interest. Traditional definitions of literacy that privilege the written word to the exclusion of all else, fail to account for the diversity of skills, tools and artefacts that shape how people now interact and construct meaning. Research from the discipline of 'new literacies' has begun to redefine and explore literacy in a new way. Definitions may encompass the ability to use and interpret moving image, music, sound and gesture (see Iedema, 2001; Kress, 2000; Kress, 2003; Kress & van Leeuwen, 2006). As the term literacy expands, new terminology emerges to articulate and mark new literacy practices from traditional lexicographic counterparts. Discussions have shifted from the singular 'literacy' to the plural 'multiliteracies' (Cope & Kalantzis, 2000). Terms such as 'visual literacy' (Kress & van Leeuwen, 2006), 'multimodal literacy' (Jewitt, 2005), 'digital visual literacy' (Spalter & van Dam, 2008), 'design literacy' (Sheridan & Roswell, 2010) and 'new literacies' (Lankshear & Knobel, 2006) attempt to account for both the mode and skill associated with such behaviours.

For educators and technologists, new literacies present us with more than just a change in terminology. The acquisition and learning of these skills differs from that of traditional literacy. Where traditional reading and writing were acquired within the educational institution and/or home, new literacies may be informally learnt, self-taught and formed outside the classroom. As such, the concept of new literacies is part of a wider paradigmatic shift in learning. Educators may find themselves to be less literate in these new skills than their students (Nordmark, Frolunde & Milrad, 2010). In these conditions, achieving a complete mastery of these new communication skills may be impossible for any one individual – teacher or student, adult or child (Ranieri & Bruni, 2013). Such practices disrupt traditional models of learning. Like reading and writing, understanding digital technologies and multimodal literacy are essential for participating in a society that utilizes both (Mills, 2010a).

The relationship between digital technologies and the acquisition of multimodal literacies has been recognised as a significant area for research. Despite this, inquiry focusing on adult learners and their informally acquired practices is limited. To date, empirical studies have focused on the practices of children, as opposed to adults. Studies of multimodal literacies have been conducted in early childhood (see Flewitt, Messer, & Kucirkova, 2014; Wolfe & Flewitt, 2010), primary (Fails, Druin, & Guha, 2010) and secondary (Mills, 2010b) education settings. In many ways, this is not surprising. Literacy has always had strong ties with early childhood development. Furthermore, as a young and convergent discipline, new literacies inherits its research foci from other fields (Livingstone, van Couvering, & Thumim, 2008), namely traditional literacy scholars, whose domain has typically focused on school-level learners. Where the discourse centres around technology's impact on adult literacy this has frequently preoccupied itself with an analysis of the phenomena of use rather than how mastery of the new media is acquired, whether this be social anxiety about the use of *Txt spk* (see Crystal, 2008), to the much contested archetypes of the 'digital native' (Prensky, 2001) and 'the

Net Generation' (Tapscott, 1998), to the role of photographs on Facebook in communication, identity construction and the understanding of reality (Winston, 2013). How adults have learnt the literacy skills needed to use these new media is generally not investigated.

Mobility and Learning

Mobile learning, as a discipline, is habituated into thinking about learners who are mobile and afforded with self-direction within ad hoc environments (Wang & Shen, 2011), sometimes outside of formal educational institutions (Livingstone, 2001). In the case of new literacies, mobile learning allows individuals to 're-interpret their everyday life contexts as potential resources for learning' (Pachler, 2009, p. 5). For adults in informal settings, learning differs from the heavily structured and outcomes based format prevalent in formal curricula. This is important if we are to recognize education as being more than just "learning facts, acquiring skills and becoming socialized in roles" (Nohl, 2009, p.287). Despite this, the field has often focused on learners enrolled in educational institutions such as schools, colleges and universities that have a formalized and set curricula, even if learning takes place within an informal setting.

Mobile devices are one tool that enables people to engage with their everyday surrounds, not only as consumers, but also as producers of digital artefacts. This is something that, the authors argue, remains a critical component necessary to understand new literacies. Though research into the role of mobility within new literacies is limited, findings from existing studies demonstrate the power of user-generated content approaches for adult learners in the community (Ranieri & Bruni, 2013; Ranieri & Pachler, 2014). In Ranieri and Pachler's (2014) study of mobile digital storytelling, mobile devices were a 'resource for identity formation and self-representation'. This reinforces what we know about digital storytelling as a means of empowering and giving voice to its participants (Lambert, 2002; Meadows, 2003). Secondly, the researchers also found that mobile storytelling enabled powerful transformative learning experiences (Ranieri & Pachler, 2014). Transformational learning theory (see Mezirow, 1991) is an important concept in adult and lifelong learning, where transformative learning experiences can help us "challenge and subsequently change our yet unchallenged psychological and cultural assumptions that constitute our 'meaning perspectives' (Nohl, 2009, p.287).

Adult Mobile Learners, Informal Practice and New Literacies

The question for mobile learning is how new literacies are enacted within the mobile space. Mobile technologies support learning that is informal (e.g. Pachler, 2009; Pachler et al., 2010; Traxler, 2007), lifelong (O'Malley et al., 2005; Sharples, 2000) and flows 'across locations, time, topics and technologies' (Sharples, Arnedillo-Sánchez, & Milrad, 2009, p. 235). It can situate a learning conversation within the individual user's work (Coulby, Hennessey, Davies, & Fuller, 2011) or within their personal time and space (Sharples, Taylor, & Vavoula, 2007). To understand what form this learning conversation might take, we need to understand new literacies from a mobile perspective. This means not only practically grounding the research, for example in studies involving mobile devices or activities, but orientating such studies theoretically within existing contributions of mobile learning. From such a vantage point, studies may better account for human and computer mobility, informal practice and how literacy practice forms part of the wider ecological mobile complex (see Pachler et al., 2010). Likewise, while digital storytelling has been used successfully within the community (see Lambert, 2002; Meadows, 2003), it remains under-theorized, lacking understandings of either literacy or mobility. Thus, building on understandings in new literacies and mobile learning may allow us to better understand how such skills are acquired and practiced outside of the educational institution. This is important for adult learners in a time when the ways we construct and share knowledge become more visual, participatory and multimodal. Using a community-based project, this research explores the role of mobility on new literacy acquisition and practice outside of formal educational programs.

METHODOLOGY

In focusing our attention on informal adult mobile learning, the usual boundaries that scope and delineate an area of research are unclear. The fact that it takes place ad hoc and unplanned poses several methodological challenges, as does an informal learner population who may not acknowledge that what they are doing counts as learning (Foley, 2001; Hrimech, 2005). Likewise, there is no established time period such as a semester, or objects such as learning outcomes or assessments through which to measure this learning. Research into informal mobile learning requires a methodology that provides scope and boundaries through which to access the adult lived experience. In this study, the researchers approached this phenomenon of interest through *mStories*, a creative digital writing project that supported adults in the community in learning to create mobile stories using any combination of image, video, text and sound afforded by their mobile device. Participants were provided with a one-page brief and uploaded their contribution to a shared public project website. Like other kinds of interventionist and educational research, the project is both a vehicle for the phenomenon of interest and a research method in and of itself. In this section, the authors describe the research and project design as a means of understanding adults' informal mobile literacies within a community context. This section begins with a macro level overview of the rationale for a creative and participatory case study approach, before outlining the specific research question and methods for data collection and analysis.

Creative Participation as a Means of Inquiry

Creative approaches have long been understood as a method of legitimate inquiry (Sullivan, 2005), one that can often be collaborative and offer revelatory insights into a community when paired with a participatory ethos (e.g. Lykes, 2001). As new technologies are reappropriated in new ways, insights that explore this creative use stand to offer valuable insights into both multimodal semiotics and practice (see van Leeuwen, Djonov, & O'Halloran, 2013). Creative approaches may also facilitate learning, since creative expression has been linked to transformative learning (Davis-Manigaulte, Yorks & Kasl, 2006). By offering participants a blank canvas in which to do something different, the *mStories* project is a means for understanding how people learn and approach new digital tasks. Originally structured around the concept of a writers' group, *mStories* offers a parallel community group for informal learning, sharing, and engaging in a creative activity. While pre-existing user-generated platforms (e.g. Facebook, YouTube, Instagram, Flickr) offer places for people to create multimodal content, such forums already have firmly established genres and social networks. In contrast, *mStories*, as an independent creative project, provided a novel space in which people could engage in new, and extended, meaning making and storytelling practices. Within the *mStories* project, participants were given an open invitation to create and share a digital "story" using any feature or function of their mobile device. Mobile stories could include any combination of images, video, text and sound. The community website acted as a gallery and hub for content sharing.

A MOBILE AND DIGITAL 'WRITERS' GROUP AS CASE STUDY

In this study, the *mStories* writers group and project are interpreted to be the 'functioning specific' (Stake, 1994, p. 236) necessary for case study research. Treating the project as a specific case allows us to investigate circumstances, such as informal mobile learning, where boundaries between phenomenon and context are not clearly evident (Yin, 1994) while continuing to respect the agency of adult learners within the community. This approach provides the boundaries through which to investigate the problematically unbounded phenomenon. Furthermore, in centering the study on the participant group, as opposed to a specific app, platform or technology, the project took a human-centered approach that accommodated and responded to the diverse range of individual needs, technologies, interests and motivations present within the group. The participants thus determine the

bounds of both project and case. This is important for informal mobile learning that is characteristically personalized, situated, and prone to having too many variables, too much noise and too little signal (Traxler, 2009, p. 160). Though a case study approach lacks breadth and generalizability of its findings, it nevertheless contributes valuable in-depth findings, and like 'black swans' can offer significant insight to a field of inquiry (Flyvbjerg, 2004).

Data Collection and Analysis

As an exploratory and participant-directed study, the researchers adopted qualitative and emergent methods. The researchers explored both 'what is made' and 'how it is made', since these perspectives are important within literacy research (Andrews & Smith, 2011). Qualitative data is used to address the following research question:

RQ: How can we best describe adults' informally acquired mobile literacy practices?

For the purposes of this study, literacy refers to the meaning-making process associated with the 'reading' and 'writing' of digital artefacts. The research question was investigated through three iterative phases of data collection and analysis. The stages are depicted in Table 1.

FINDINGS

The findings from the *mStories* project are presented sequentially by stage. Qualitative data is summarized using example quotations. In instances where it is both clearer and more informative to present findings numerically (e.g. common themes) we use numeric data, though as a qualitative study that is rooted within an interpretivist research paradigm this data has no statistical significance.

Stage 1: Preliminary Survey

The preliminary survey was designed to explore existing mobile use and motivations for participating in the project.

Participant Engagement

The project established itself by recruiting participants through writers' groups and community networks. Following traditional participatory and action research approaches, the group was originally established to work face to face. However, the digital nature of aspects of the project led to a shift to online participation, outlined in earlier work (Frawley, 2012). Though established on a writers' group model it was largely non-writers (two-thirds) who expressed interest in joining. The final *mStories*

Table 1. Methodology and data collection

Stage	Method	Aims	Data collected
1	Preliminary survey	Who participated and why?	• Participants' demographics • Type of phone and existing usage • Occupation and hobbies • Motivations for participating
2	Content and artefact analysis	What was created?	• Modes and media used • Genres and content created • Semiotic features
3	Post-project interview and survey	How did people create the digital mobile story analysed in Stage 2?	• Modal choice • Technology choice • Perceptions and attitudes of outcome and process

participant group was composed of nine people. Participants were from Australia (n=5) and the UK (n=4), with an age range spanning from 21-25 to 46-55. Gender was comprised of male (n=4) and female (n=5). This small sample size allowed for responsive and labour intensive research methods including the multimodal analysis presented in this paper and the intersemiotic analysis presented in earlier work by the authors (Frawley & Dyson, 2014).

Existing Device Usage

The results from this survey found that, while all participants used their phone for calls and text messaging, there was a difference in the extent to which people engaged in multimodal consumption and production behaviours (Table 2). This can be interpreted as a reflection of the differences in device ownership at the time, with not all phones easily affording multimodal practices. Though there was a range of interests, none of the participants had ever used their device to create a mobile story before, thus confirming the project as an opportunity for the participants to learn something new.

Motivations

Although writers' groups were initially approached, members from writers' groups accounted for only one third (n= 3) of the final group. Whilst there were two professional writers in the group, other participants had a range of occupations (Table 3). Participants' hobbies were similarly diverse and included things such as photography, drama and acting, sports and outdoor activities. Interest in the project was gauged through the open question: "What interested you in participating in the *mStories* project?" Participants' responses were coded thematically. From this coding three dominant themes emerged:

- *To be creative (n= 5):* e.g. "A chance to be creative and conduct my own e-show"
- *Interesting or fun (n=4):* e.g. "sounds fun, interesting and a tiny bit silly"
- *It is different or new (n=5):* e.g. "Writing a short story with a mobile phone isn't something many people would consider and all the better a way to inject some stimulus into the writing world"

Table 2. Thematic coding of participants' existing mobile literacy practices

Literacy practice as categorized by the researcher		Activities	Instances (n= _/9)
Multimodal and multimedia dominant literacy	Consumption	Surfing the net	7
		Watching online video	4
		Downloading music or video	1
		GPS and maps	7
		Playing games	3
	Production	Taking photos	7
		Making videos	3
		Recording sound	2
	Both	Social networking	4
Text dominant literacy	Reading	Reading eBooks	2
	Reading and writing	Text	9
		Email	6

Stage 2: Content Analysis

The completed mStories and their inclusion within the *mStories* website provided data about the media, genre and context that were employed by users (Table 3).

Modes and Media

Of the nine creative stories generated by participants, all employed the visual mode through either still or moving image. Text and image combinations accounted for the majority of stories uploaded. One example of this is "What am I wearing today?" – a sequence of daily self-portraits that are accompanied by text offering the author's personal reflections and comments (Figure 1). Participants demonstrated the ability to not only use different semiotics (e.g. image and text) but to combine these to create a single comprehensive semantic unit in which different semiotics "spoke" to each other. An example of this can be seen in Figure 1, where the pronoun "this" (in the written text) can only be understood in relation to the visual image to which it refers.

Table 3. Participants' digital mobile stories – genre, media and context

ID	Participant/Author			Genre	Media	Contexts and locations
	Occupation and location	**Gender**	**Age (Years)**			
1	Fire fighter Sydney (Australia)	M	21 – 25	Documentary	Video	Journey from fire station to fire.
2	Writer Cambridge (UK)	M	26 – 30	Poem "iambic textameter"	Text Photo	Poem and photo inspired by view of a churchyard.
3	Fundraiser London (UK)	F	26 – 30	Themed photos	Photo	Mornings in London taken from flat and commute to work.
4	Management Consultant London (UK)	M	26 – 30	Photo diary	Photo	Commute to work in London.
5	Accountant Sydney (Australia)	M	31 – 35	Mixed genre (Composite Diary)	Photo Video Music	Idealised Saturday compiled of many Saturdays at markets, beaches, art galleries, gardens, and a fireworks display.
6	Interaction Designer Sydney (Australia)	F	31 – 35	Diary	Text Photo	Daily portrait and diary entry about the clothes a person wears.
7	Medical doctor Cambridge (UK)	F	31 – 35	Photo diary	Photo	Moments from a "special day" in London taken at markets, on the tube, in the shops, at the theatre and at home.
8	Writer and mother Sydney (Australia)	F	36 - 45	Short story fiction	Text Photo	'Spooky story' set in many different locations: playground, the street, a pre-school classroom etc.
9	Researcher Sydney (Australia)	F	46 -55	Poems	Text Photo	Poems set to photo portraits of flowers.

Figure 1. What am I wearing today? (excerpt)

Today it's raining when I woke up so I decided to wear this outfits:same jeans as yesterday; I only do laundry on the weekend so it's not unusual for me to keep wearing the same jeans for 3 days! ;-)

I have this wrap dress or cardigans that can be worn in 3 different styles (as you can see from the photos) sorry the lighting in my bedroom isn't very good. So I wear this today with black t-shirt underneath. Also have my long booths on today. Mainly because it's raining ....

Genre

Several genres were represented, including a short speculative fiction story, poetry, documentary and diary forms. Photo or video diaries were the most common genre on the *mStories* website. However, while participants adopted accepted genres, these were appropriated in ways that either bent or by-passed existing conventions. For example, one poem (paired with a photo of the specific location that provided inspiration to the text) was written using SMS and comprised four lines of iambic pentameter. However, the author chose to refer to this as the iambic *textameter*, in recognition of the mobile technology used to create it (Figure 2).

Similarly, the visible presence of the mobile phone covering the face of the author in the story 'What am I wearing today?' (Figure 1) diverges from both the traditional conventions of portraiture, and the contemporary convention of a 'selfie', which is a photo taken of oneself using a phone held at arm's length so that the device does not show in the image.

Though the diary genre was popular, these were sometimes part fiction in nature. One story, entitled 'My Saturday' was a composite mix of photo and video from many Saturdays that formed a single narrative structured from morning to evening (Figure 3).

As a pastiche of photos, videos, sound recordings and music, the story of 'My Saturday' resists clear categorization. Similarly, the question of what counts as poetry is challenged by the two poetic contributions, both of which use text and image. Given that the poem's meaning is bound to both modes, such content presents a challenge to definitions of poetry that focus solely on the text, however concrete that might be.

Context

What is easily observable from Table 3 is the extent to which the stories portray the context in which they are situated. Though Story 9 was a series of mobile poems written in SMS that reflected on the

Figure 2. Iambic Textameter – A view from my window

View from my window

Tombstones crash down like waves upon the shores
Of distant lives, wilted by Earth's own yaws.
Near prostrated, bowed brittle bones of stone
Give a sigh and smile: Time calls us home.

participant's professionally taken photographs of native Australian flowers, the eight other stories all directly provide a dialogue between the individual and the mobile context in which they are situated. This dialogue can result in different outcomes. In Story 8 photos of local places in Sydney are rewritten by text into a spooky, speculative fiction. An intersemiotic analysis of this revealed the sophisticated ways that mode and media were used to redesign the context for the story (Frawley & Dyson, 2014). On the other hand, in Story 6 'What am I wearing today?' (Figure 1), where the participant's choice of clothes is made in the morning before she goes to work, each photo reflects the time of that person's experience and their place of decision in front of the mirror. In another example, the firefighter's story, the immediate context of his work, the filming of the fire as it was being fought, resulted in the curtailment of the story when the demands of the job precluded any continuance of filming. The mobile devices thus allowed each participant to explore their experience within the context they had chosen for the project. In capturing their contextualized experiences the technology and the project addressed one of the main aspects of adult learning, that is, the acknowledgement that 'adults define themselves largely by their experience [and] have a deep investment in its value' (Knowles, 1980, p. 50).

Figure 3. My Saturday (excerpt)

Narrative Viewpoints

In considering the ways that participants construct meaning for the viewer or reader of their stories, two common themes were identified. Within visual semiotic analysis the interpersonal metafunction suggests the social relationship enacted between the viewer and the image (Kress & van Leeuwen, 2006). Within the mobile stories, especially those that were photo diaries, images constructed a relationship whereby the viewer *became* the participant and shared in their view of the world. This is most noticeable in Stories 1, 3, 4 and 7. To illustrate this, an excerpt from the Story 4, My London Commute (Figure 4) positions the viewer as the commuter within the story. This can be interpreted as the visual equivalent of literary devices that align the reader with a single character by narrating the story from that perspective, for instance, in the first person or through a diary format. Though Story 4's individual images are often blurred and out of focus, the perspective and sequence of these images creates a narrative that makes sense of this action and gives it a story.

Though less visible, a secondary approach was also used. This was most notable in stylised or symbolic stories such as Stories 3 and 7, where a 'still life' of clothes, food or wine was used in lieu of representing a process or an action. For example, excerpts from Story 7, 'A special day' (Figure 5), depict breakfast and getting ready for the day through a stylised setting of objects that indicate a period within a wider event. These objects again position the viewer in the place of the participant. The mobile devices thus allowed participants to construct, share and externalise each individual's own reflections and understandings. In conversational learning theory, a minimum requirement for learning

Figure 4. Sharing perspectives on action and process
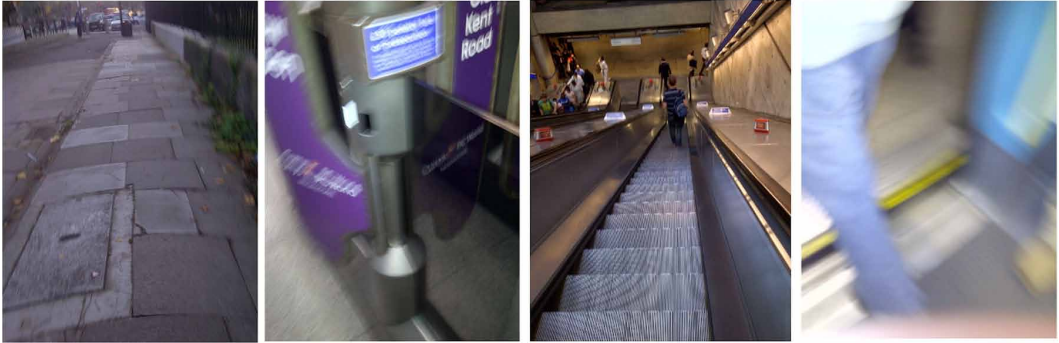
is that for a person must be able to converse to themselves about what they know; more effective still is for such externalised representations to be shared with others as part of a learning conversation (Sharples, 2002). What the narrative viewpoints demonstrate is the different ways learners construct this conversation in order to interrogate, articulate and externalise their own experiences and identities.

Stage 3: Post-mStory Survey and Interview

The post-mStory interview and survey explored how participants created their story and made decisions about the mode and process associated with generating that content.

Modal Choice and Agency

Participants' choice of mode or media was principally motivated by the perceived needs of either the individual author/creator or the story itself. The dominant themes that emerged from the data were:

- **Practical Needs:** "I wanted to illustrate the pace of my journey to work and needed something that was quick to use and easily accessible. The camera works on one click so I could get an image quickly without drawing too much attention to myself."
- **Expressive Needs:** "I thought about taking a series of photos and adding text but decided that the task could be accomplished more simply if I allowed the pictures and sound to speak for themselves"
- **Interest Needs:** "I love photography. I thought it was a good way to register my day like a diary"

Figure 5. Still life and symbolism in mStories photography

Participants were asked whether they supplemented their mStory with any content not created on their mobile phone. Two participants chose to use a camera to take photos because of the perceived limitations of their device: one person's phone did not have a camera, whilst one chose to use their camera to get a "higher quality of photo" than their phone allowed. Both said that the photo "added a great deal" to the SMS poems that they had written. In addition to this, two participants who created mobile video content resorted to their laptops to format their final submissions. Both participants found it to be too time-consuming and difficult to do on their mobile device.

Participant Process

In describing the process, participants were heavily influenced by in-situ actions and reflections on the mobile context of use.

- "I was inspired by the view out of my window…"
- "I wanted to give the impression that they were doing the commute with me"

However, whilst the mobile space provided creative impetus, the shaping of this into a meaningful story is a result of the individual's own dialogue and action with that mobile context of use. This was noticeable in Story 9. In this mStory the participant had written a collection of poems using SMS but inspired by photography of flowers she had taken using a Digital SLR camera on a photography course in the Blue Mountains National Park. However, the very last image and poem in the sequence is of an Echidna (Figure 6), which was captured in the back garden using the device she had on her at the time – her mobile phone.

This dialogue was inseparable from the individual and their personal motivations, interests, likes and reflections. Decisions on what to create a story about were driven by what the individual perceived to be interesting: e.g. "I wanted to create something fun and exciting". Likewise, learning by reflecting on that environment also became an important part of this dialogic interaction. In Story 1, a firefighter who used his phone to create a video story about his work describes: "Since making my mStory I have caught myself taking photos of things. I feel this is because capturing these things makes me aware of them". Thus, the participant's behaviour changed because of their experience in this project, demonstrating the power for mobile learning to be used in community projects to facilitate transformation.

Learning in Mobile Spaces

Outside of an educational environment and in an informal setting, it is often difficult for people to recognise or articulate what they are doing in terms of learning. Asking direct questions on learning, especially within a creative project, is potentially problematic. However, from indirect questions such as 'what did you gain from this experience?' and 'what did you like or dislike?' qualities and potential prerequisites for learning did emerge, most chiefly with:

- *Self-efficacy and identity:* "I gained a lot and I found that I gained the knowledge that I can think on my feet more than I think I can… And yeah that's the thing I learnt […] thinking on your feet you've got nothing backing you up. You've got no permission to write. And I was able to embrace that challenge and I was happy when I produced something that I kind of liked."
- *Adaption and overcoming technical constraints:* "On a computer at home I would have a research document, drafts […] you can't do that on a phone, so I had to produce something completely different."
- *Reflection and metacognition:* "The type of thing that became my mStory is fairly common, one that I normally experience and forget. Even though I still haven't looked at my mStory since I created it, I still very clearly remember what happened, whereas I don't remember half of the

Figure 6. Story 9 (Excerpt)

other similar instances. This is something that has also occurred with other photos since. I think capturing events has made me aware that things I find mundane, may, if looked at closely, actually be worth remembering."

Awareness, that is, reflection, was enhanced by the affordance of the mobile devices for capturing events and context in graphic form, either as photos or videos. This allowed participants to view the experience again, for example, when they completed the story through editing or uploading to the website. Educational theory shows that reflection is essential for long-term learning, as a metacognitive skill through which learners clarify their understandings and are able to transfer the new concepts and skills to later situations (Dewey, 1933).

All participants reported never having created a digital or mobile story prior to joining the project, yet all participants did create something entirely new. Indeed, seeking to 'be creative' and 'to do something new or different' were the primary participant motivations recorded in the preliminary survey. If this is the outcome set by the participants, then learning, albeit informal, did take place. Novelty and creativity were important in this learning process; in short, we may not only 'learn by doing' but may 'learn by doing something else'.

DISCUSSION

Mobile devices afford visual and multimodal communication. By embracing this, the *mStories* project was able to widen participation from that found at usual writers' groups to afford reflective and novel practices and opportunities for adult learning and transformative experiences. These practices were characteristically situated, experiential and reflective and allowed participants to engage directly with the mobile context of use in a way that was novel and creative. When combined, the findings from the three stages of data collection allow us to form an elementary understanding of how the wider mobile complex affects new literacy practices and learning. As adult learners in a participatory context, the individuals demonstrably extended their existing literacy practices, both in terms of the artefacts they made and practices they engaged in. None of the participants had ever created a digital or mobile story before. However, within the parameters of the project all participants succeeded in creating a mobile digital story. The collective outcome of the *mStories* project was an expressive and creative contribution that differed markedly from existing genres of social media. The project outputs were characteristically multimodal and image based, reflecting the wider socio-technical shift from a word-centric to a visual-centric culture (Spencer, 2011). Each mStory also showed a high degree of sophistication in the way images, texts and sound were designed to communicate with an imagined reader. Participants' stories simultaneously appropriate and challenge existing genre conventions, demonstrating novelty in product and practice. Specific examples that demonstrated learned extension of new literacies were poetic formats such as the *iambic textameter* and emergent practices such as that of the firefighter's reflection on action through photography and video. Such shifts in genre support research that suggests digital technologies may be changing the structure of stories and narratives (Alexander & Levine, 2008; Loveless, 2007). From a learning perspective, this project demonstrates the capacity for mobile storytelling to provide the conditions for transformative learning experiences (see Mezirow, 1991) from a creative project.

Participants' success in this project cannot be understood without reference to their motivations and the way the participatory ethos of the project itself supported individuals' self-direction in their learning. As indicated in the preliminary survey, participants wanted to join the project 'be creative' and 'do something new'. Theories of adult learning have long recognised the importance of learners' setting their own goals (Knowles, 1980). Thus, by allowing individuals to share in the 'responsibility for planning and operating a learning experience, and therefore have a feeling of commitment toward it' (Knowles, 1980, p.57), the mStories project recognised the value of adult learners' own experiences and the value of this within their learning. As a social narrative, each mStory allowed learners to construct knowledge in their own modes, media and terms. Each story can be interpreted as being part of the collective *mStories* conversation. In this project, such learning conversations (see Sharples, 2002) were focused on the individual identity of the storyteller and the personal or thematic story that they wished to share.

Within the project, mobile devices played an important role within a wider ICT ecology. Mobile devices supported adult learners in drawing on the places and spaces that comprised their daily lives (see Pachler et al., 2010), with creative triggers *in situ* often being reflected upon and developed in other contexts using other tools. Though device features, such as the camera, may have afforded, constrained and facilitated different multimodal practice, participants were not technologically determined. Instead, individuals continued to exert personal choice and agency as they shaped their

digital story. Participants turned to other devices available to them to realize design intentions. This highlights the way in which mobile devices are entangled within the individual's wider ICT ecology (Brady & Dyson, 2010). Though each individual's personal ICT ecology may be shaped by personal preferences and socio-economic factors, this work reinforces the need for mobile learning scholars and practitioners to continue to look beyond the device. As such, concepts of ubiquitous computing that recognise the wider structure of physical, social and informatics systems that are entangled within individuals' daily lives (Shepard, 2013) and definitions of mobile learning that focus on the mobile complex (see Pachler et al., 2010), are better placed to help understand and design mobile learning for adult learners in the community.

Throughout this study several themes have emerge to address the research question: "How can we best describe adults' informally acquired mobile literacy practices?". In short, this mobile literacy and learning is best described as: multimodal, participant designed, situated, experiential, reflective, motivated and participatory.

IMPLICATIONS FOR PRACTICE

By opening up storytelling to multimodal methods and approaches, the *mStories* "writing group" was able to accommodate a diverse group of people (writers and non-writers) in learning how to do something entirely new. This research and case example can be put into application in several ways. Firstly, areas in digital storytelling (see Lambert, 2002) that adopt desktop technologies and typically linear narrative patterns could embrace mobile technologies to allow for storytelling that may occur in other formats and shapes. This may support increased creative agency, identity construction and reflection. This approach and the research associated with it can be applied and extended in community settings to support the experiential and participatory needs of adult learners (see Knowles, 1980). Secondly, while the authors recognise that we cannot ever guarantee transformative learning, approaches such as this one, and that outlined by Ranieri and Bruni (2013), can create the conditions whereby it is possible for participants to experience or encounter the perspective shift that is part of transformative learning theory. Lastly, while this work focuses largely on community settings, the authors argue that digital mobile storytelling has the potential to be transposed to formal settings where creative projects may allow educators to support students in exploring areas relating to identity and meaning making. This approach may provide an alternative to more outcomes-based approaches to curriculum design.

CONCLUSIONS AND FUTURE WORK

Like adult learners more generally (Knowles 1980, p.50), participants came to this project not as blank slates, but as people with motivations, individual interests, attitudes and ideas derived from their previous life experiences, and used their life context as a place in which to be creative. The picture of mobile literacy depicted here is place-based, and ecological. Through this study we can retain the voice of the adult learner as someone who is active and continually engaged in literacy learning and development, as opposed to the more traditionally binary literate/illiterate distinctions. From understanding how adults extend new literacies, we are better placed to target key questions that relate to initial acquisition of new literacies by adult learners, and how and to what extent informal learning occurs.

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